

Getting Started with the LSST Software Stack



Obsolete!

For LSST stack distribution documentation visit pipelines.lsst.io

Introduction

The LSST Software Stack (**LSST Stack**) is the collection of source code used to process LSST data and generate the official output data products. The stack includes the *application layer* (the image processing software to detect and characterize sources on images, detect moving objects, build co-added images, difference images, etc.), the *middleware layer* that includes both pipeline and orchestration components that manage the robust execution of the application code on large clusters with thousands of cores, and the *distributed database* to store and serve the resulting catalogs. Note: the distributed database will soon be replaced by [qserv](#).

Users of the **LSST Stack** may have one or more of the following objectives in mind:

Run the **LSST Stack** on a collection of data

The goals for data processing may be science, testing LSST software or performance, or generating products for a Data Challenge.

1. Consider whether [Binary Installation](#) is right for you.
2. If you are not running one of the above platforms or you do not or cannot install CernVM FS, you can instead:
 - a. ensure the [prerequisite software](#) is installed, and
 - b. [install the LSST Stack from source](#).
3. [Test the installation](#) by running the Demo
4. Review the chapter [Using the LSST Stack](#)
5. Prepare your data collection

Note that it is unlikely that data from arbitrary cameras can be processed with the **LSST Stack** *without* making modifications to the software.

Make use of functionality in the **LSST Stack** for custom processing software

- Ensure the list of [prerequisite software](#) is installed
- [Install the LSST Stack from source](#)
- [Test the installation](#) by running the Demo
- Review the chapter [Using the LSST Stack](#)

Develop new capabilities for the **LSST Stack**

- Ensure the list of [prerequisite software](#) is installed
- [Install the LSST Stack from source](#)
- [Test the installation](#) by running the Demo
- Review the chapter [Using the LSST Stack](#)
- Read the [LSST DM Developer Guide](#)

Use of LSST Software

All LSST code is [free software](#), licensed under the terms of the [GNU General Public Licence, Version 3](#). You have the freedom to run, copy, distribute, study, change and improve the software as you see fit, with no strings attached (aside from the GPL requirements when redistributing the code or derivatives). Using, modifying or redistributing the LSST Stack does not make you subject to the LSST Project Publication Policy. However, if you use the software in a published work, we request that you cite [Ivezi et al.](#) and [Axelrod et al.](#) In addition, it is appropriate to include an acknowledgement of the form:

This paper makes use of software developed for the Large Synoptic Survey Telescope. We thank the LSST Project for making their code available as free software at <http://dm.lsst.org>.

Since the LSST Project is not funded to provide support for the LSST Stack outside of LSST, any support provided by project members will come out of their own free or science time. A fair way to acknowledge their help and good will may be to offer co-authorship on technical papers describing the derived software (e.g. pipelines).

Support from the Community

Join fellow users and developers in the [LSST Community](#) forum at <https://community.lsst.org>. We invite you to

- ask questions in the [Q&A category](#)
- follow and participate in LSST Data Management discussions in the [Data Management category](#), and
- get official announcements (such as official stack releases) in the [Announcements category](#).